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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/826,224	04/04/2001	Dexter Chun	4740-002	2474

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EXAMINER	
DAVIS, CYNTHIA L	
ART UNIT	**PAPER NUMBER**
2616	

DATE MAILED: 03/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/826,224	CHUN ET AL.	
	Examiner	Art Unit	
	Cynthia L. Davis	2665	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *8/17/2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-24* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, filed 3/4/2005, with respect to the rejection(s)of claim(s) 1-24 under 35 USC 102(a) and 103(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of 35 USC 103(a), below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 2 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Elliot.

Regarding claim 1, a base station controller system communicatively coupled to a core network is disclosed in Elliott, column 7, line 63-column 8, line 3. A plurality of resource pools to support wireless communication with a plurality of wireless access terminals, each said resource pool performing a defined call processing function is disclosed in figure 2, elements 206 and column 5, lines 1-8. A switching fabric to provide redundant and independent access to each of said resource pools such that resources from each said resource pool are independently selectable from resources in

other said resource pools by configuring said switching fabric is disclosed in figure 2, element 216 (the switching fabric) and column 5, lines 1-8 (describing A and B call processor functions being present in the network, both are accessed via the switching fabric). A system controller to configure said switching fabric to selectively allocate resources from said resource pools to communicatively connect said wireless access terminals with the core network is disclosed is disclosed in figure 2, element 204, and column 4, lines 61-67.

Regarding claim 2, the switching fabric comprising a distributed ATM switching fabric is disclosed in Elliot, figure 2, element 216.

Regarding claim 21, Providing a plurality of resource pools, each one of said resource pools providing one of the plurality of call processing functions is disclosed in Elliot, figure 2, elements 206 and column 5, lines 1-8. Providing redundant and independent access to each said resource pool by interconnecting said plurality of resource pools through a configurable switching fabric is disclosed in Elliot, figure 2, element 216. Allocating a specific combination of resources selected from one or more resource pools in said plurality of resource pools to each call being routed through said base station controller by configuring said switching fabric is disclosed in column 5, lines 1-8.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Trotta.

Regarding claim 3, a centralized ATM switching resource communicatively coupled to said system controller is disclosed in figure 2, element 216 (the main fabric). At least one distributed ATM switching resource providing redundant communication links between said resource pools and said centralized ATM switching resource is missing from Elliot. This is disclosed in Trotta, column 17, lines 61-64. It would have been obvious to one skilled in the art at the time of the invention to use redundant ATM switches in the switching fabric of Elliot. The motivation would be to have standby access to the resources, using a high-capacity type of transmission (see Trotta, column 3, lines 41-49, and column 17, line 62).

4. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Sauer.

Regarding claim 4, the resource pools comprising front haul exchange termination resources to communicatively couple with a mobile switching center in the core network is missing from Elliot. This is disclosed in Sauer, column 7, lines 3-4. It would have been obvious to one skilled in the art at the time of the invention to include front haul exchange termination resources in the invention of Elliot. The motivation would be to communicate with the MSC.

Regarding claim 5, the base station controller system of claim 1 wherein said resource pools comprise service option element resources to provide vocoding and echo cancellation functions for voice calls is missing from Elliot. This is disclosed in

Sauer, figure 1b, element 252, and column 7, lines 21-23. It would have been obvious to one skilled in the art at the time of the invention to include vocoding and echo cancellation functions in the system of Elliot. The motivation would be to improve call quality.

Regarding claim 6, the resource pools comprising selector element resources to provide radio link management and protocol support for voice, data, and packet data calls is missing from Elliot. This is disclosed in column 4, lines 52-54 of Sauer. It would have been obvious to one skilled in the art at the time of the invention to provide radio link management and protocol support for voice, data, and packet data calls. The motivation would be to be able to carry many types of traffic.

Regarding claim 7, the resource pools comprising packet network exchange termination resources to communicatively couple with a packet data serving node in the core network is missing from Elliot. This is disclosed in column 4, lines 52-54 of Sauer (the system can process packet traffic from voice, data, image, and video sources in the core network). It would have been obvious to one skilled in the art at the time of the invention to include network exchange termination resources to communicatively couple with a packet data serving node in the core network in the system of Elliot. The motivation would be to process traffic from various sources in the network.

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Baird.

Regarding claim 8, the resource pools comprising back haul exchange termination resources to communicatively couple with at least one radio base station

providing RF communication to support calls to and from said plurality of said wireless access terminals is missing from Elliot. This is disclosed in Baird in the abstract. It would have been obvious to one skilled in the art at the time of the invention to include the back haul resources of Baird in the system of Elliot. The motivation would be to connect the base station of Elliot to the central broadcasting center of Elliot (see Elliot, column 7, line 63-column 8, line 3).

6. Claims 9-11 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Marin and Ji.

Regarding claim 9, a plurality of resource pools, each said resource pool comprising resources supporting at least one call processing function is disclosed in figure 2, elements 206 and column 5 lines 1-8 of Elliot. A system controller to allocate selected combinations of specific resources from one or more of said plurality of resource pools to provide desired call processing for respective ones of calls to and from a plurality of wireless access terminals is disclosed in figure 2, element 204, and column 4, lines 61-67. A hub subrack comprising a central switching resource and said system controller; and at least one processing subrack to carry said plurality of resource pools, and further comprising switching resources to communicatively couple said processing subrack to said hub subrack is missing from Elliot. However, Marin discloses in figures 3 and 4, and column 6, lines 4-21, a modular rack/subrack structure for a base station apparatus, with processing and switching capabilities. It would have been obvious to one skilled in the art at the time of the invention to divide the call processors of Elliot onto different subracks. The motivation would be to be able to add

or remove components to increase or decrease capacity (see Marin, column 5, lines 45-48). Each said processing subrack comprising resources from each of said plurality of resource pools is missing from Elliot. This is disclosed in Ji, column 3, lines 26-30 and 45-48 (the channel element resources, which are capable of performing all necessary call functions, are disposed on different cards). It would have been obvious to one skilled in the art at the time of the invention to use the cards of Ji in the system of Elliot. The motivation would be to avoid overloading any individual piece of equipment (card) with too many calls, to avoid multiple channel failures in case of failure of a card (see Ji, column 3, lines 3-9).

Regarding claim 10, the switching resources on each said processing subrack and said central switching resource on said hub subrack together comprising a switching fabric to communicatively couple said hub subrack with each of said processing subracks is disclosed in Elliot, figure 2, element 216.

Regarding claim 11, the switching fabric comprising a communication switch on said hub subrack; a communication switch on each said processing subrack; and a plurality of communication links between said communication switches on said processing subracks and said communication switch on said hub subrack is not specifically disclosed in Elliot. However, Elliot does disclose a switching fabric (figure 2, element 216), which would commonly be made up of switches and communication links (see Simpson, figure 1, and column 4, lines 56-58, for an example). It would have been obvious to one skilled in the art at the time of the invention to use switches and

communication links to comprise the switch fabric of Elliot. The motivation would be to use components commonly used in switching.

Regarding claim15, the communication switches on said hub subrack and each said processing subrack comprising ATM switches is disclosed in Elliot, figure 2, element 216 (the switches are ATM switches).

Regarding claim 16, each said mixed-architecture processing subrack comprising a percentage of an overall call processing capacity of said base station controller system, and further wherein the overall call processing capacity of said base station controller system may be scaled based on adding additional ones of said processing subracks is disclosed in Elliot, column 5, lines 1-8 (the system may have multiple call processing servers; i.e., subracks).

Regarding claim 17, the system controller comprising at least one general processing board operative to configure said central switching resource on said hub subrack and said switching resources on at least one of said processing subracks to select combinations of specific resources from one or more of said plurality of resource pools for each call routed through said base station controller is disclosed in Elliot, figure 2, element 204.

Regarding claim 18, the system controller comprising a processing subsystem configured to optimize resource selections such that resource assignments comprising said selected combinations of resources from said one or more of said plurality of resource pools are selected from a minimum number of said processing subracks is missing from Elliot. This is disclosed in Ji, column 6, lines 25-39 (to minimize redundant

failures, the number of cards per channel should be minimized). It would have been obvious to one skilled in the art to minimize the number of call processing subracks used per call as is done in Ji in the system of Elliot. The motivation would be to avoid overloading any individual piece of equipment (card) with too many calls, to avoid multiple channel failures in case of failure of a card (see Ji, column 3, lines 3-9).

7. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Marin and Ji in further view of Trotta.

Regarding claim 12, the communication links between each said processing subrack and said hub subrack comprising redundant first and second communication links is missing from Elliot. However, use of redundant a switching fabric (which would be redundant first and second links) is disclosed in Trotta, column 17, lines 61-64. It would have been obvious to one skilled in the art at the time of the invention to use a redundant switching fabric in the system of Elliot. The motivation would be to provide standby access to the resources.

Regarding claim 13, each said communication switch on said hub subrack and each said processing subrack comprising redundant primary and secondary communication switches for switching said first and second communication links, respectively is missing from Elliot. However, use of redundant switching fabric (which would have redundant switches for the redundant links) is disclosed in Trotta, column 17, lines 61-64. It would have been obvious to one skilled in the art at the time of the invention to use a redundant switching fabric in the system of Elliot and Marin. The motivation would be to provide standby access to the resources.

Regarding claim 14, the switching fabric comprising a primary switching fabric and a redundant secondary switching fabric, said primary switching fabric comprising said first communication links and said first communication switches, and said secondary switching fabric comprising said second communication links and said second communication switches is missing from Elliot. However, use of redundant switching fabric is disclosed in Trotta, column 17, lines 61-64. It would have been obvious to one skilled in the art at the time of the invention to use a redundant switching fabric in the system of Elliot and Marin. The motivation would be to provide standby access to the resources.

8. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Marin and Ji in further view of Sauer and Baird.

Regarding claim 19, the resource pools comprising front haul exchange termination resources to communicatively couple with a mobile switching center in the core network is missing from Elliot. This is disclosed in Sauer, column 7, lines 3-4. It would have been obvious to one skilled in the art at the time of the invention to include front haul exchange termination resources in the invention of Elliot. The motivation would be to communicate with the MSC. The base station controller system of claim 1 wherein said resource pools comprise service option element resources to provide vocoding and echo cancellation functions for voice calls is missing from Elliot. This is disclosed in Sauer, figure 1b, element 252, and column 7, lines 21-23. It would have been obvious to one skilled in the art at the time of the invention to include vocoding and echo cancellation functions in the system of Elliot. The motivation would be to

improve call quality. The resource pools comprising selector element resources to provide radio link management and protocol support for voice, data, and packet data calls is missing from Elliot. This is disclosed in column 4, lines 52-54 of Sauer. It would have been obvious to one skilled in the art at the time of the invention to provide radio link management and protocol support for voice, data, and packet data calls. The motivation would be to be able to carry many types of traffic. The resource pools comprising back haul exchange termination resources to communicatively couple with at least one radio base station providing RF communication to support calls to and from said plurality of said wireless access terminals is missing from Elliot. This is disclosed in Baird in the abstract. It would have been obvious to one skilled in the art at the time of the invention to include the back haul resources of Baird in the system of Elliot. The motivation would be to connect the base station of Elliot to the central broadcasting center of Elliot (see Elliot, column 7, line 63-column 8, line 3).

9. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Marin and Ji in further view of Sauer.

Regarding claim 20, the resource pools comprising packet network exchange termination resources to communicatively couple with a packet data serving node in the core network is missing from Elliot. This is disclosed in column 4, lines 52-54 of Sauer (the system can process packet traffic from voice, data, image, and video sources in the core network). It would have been obvious to one skilled in the art at the time of the invention to include network exchange termination resources to communicatively couple

with a packet data serving node in the core network in the system of Elliot. The motivation would be to process traffic from various sources in the network.

10. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Elliot in view of Ji and Marin.

Regarding claim 22, organizing the base station controller system as a rack system comprising a hub subrack providing centralized switching resources, and one or more processing subracks, and rack switching resources to interface with said hub subrack is missing from Elliot. However, Marin discloses in figures 3 and 4, and column 6, lines 4-21, a modular rack/subrack structure for a base station apparatus, with processing and switching capabilities. It would have been obvious to one skilled in the art at the time of the invention to divide the switching and channel element resource cards of Elliot onto different subracks. The motivation would be to be able to add or remove components to increase or decrease capacity (see Marin, column 5, lines 45-48). Each said processing subrack comprising resources from each of said plurality of resource pools is missing from Elliot. This is disclosed in Ji, column 3, lines 26-30 and 45-48 (the channel element resources, which are capable of performing all necessary call functions, are disposed on different cards). It would have been obvious to one skilled in the art at the time of the invention to use the cards of Ji in the system of Elliot. The motivation would be to avoid overloading any individual piece of equipment (card) with too many calls, to avoid multiple channel failures in case of failure of a card (see Ji, column 3, lines 3-9).

Regarding claim 23, increasing a call processing capacity of the base station controller system based on adding additional ones of said processing subracks as needed is disclosed in Elliot, column 5, lines 1-8 (the system may have multiple call processing servers; i.e., subracks).

Regarding claim 24, optimizing resource assignments for a given call being routed through the base station controller system by assigning specific resources from one or more said resource pools to minimize the number of said processing subracks used to support the given call is missing from Elliot. This is disclosed in Ji, column 6, lines 25-39 (to minimize redundant failures, the number of cards per channel should be minimized). It would have been obvious to one skilled in the art to minimize the number of call processing subracks used per call as is done in Ji in the system of Elliot. The motivation would be to avoid overloading any individual piece of equipment (card) with too many calls, to avoid multiple channel failures in case of failure of a card (see Ji, column 3, lines 3-9).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia L Davis whose telephone number is (571) 272-3117. The examiner can normally be reached on 8:30 to 6, Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CLD
3/8/06

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